

# Neurodiverse STEM Students and the Academic Library

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# Definitions

## Neurodiverse

- Characterized by neurologically-based variations in patterns of thought or behavior
  - ADHD
  - Dyslexia
  - Dyspraxia
  - Autism Spectrum Disorder (ASD)

## Definition of ASD

- A developmental disorder affecting communication and behavior  
(American Psychiatric Association, 2013)

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<https://www.flickr.com/photos/148947236@N08/43772338212>



## AUTISM SPECTRUM DISORDER



### HIGH-FUNCTIONING AUTISM

#### LEVEL 1

Needs support  
Patient's social and communication skills and repetitive behaviors are only noticeable without support.

### AUTISM

#### LEVEL 2

Needs substantial support  
Patient's social and communication skills and repetitive behaviors are still obvious to the casual observer, even with support in place.

### SEVERE AUTISM

#### LEVEL 3

Needs very substantial support  
Patient's social and communication skills and repetitive behaviors severely impair daily life.

# Prevalence of ASD

Roughly 50,000 individuals with ASD enter adulthood every year with about 1/3 entering college.

More students with ASD select majors in the STEM fields than typically-developing peers.

- 34.31% vs. 22.8% (Autism Speaks, 2019; Barna, 2017)



Photo by Penn State, 2013, <https://www.flickr.com/photos/pennstatelive/8412052628>

# Common behavior and diversity

- Social communication challenges
  - Social reciprocity
  - Difficulty interpreting abstract language
  - Feeling overwhelmed in social situations
  - Recognizing and expressing emotions
- Repetitive, restrictive behaviors
  - Ritualistic tendencies
  - Narrow areas of interest
  - Resistance to change
- Autism Spectrum Disorder is variable.



(American Psychiatric Association, 2013; Autism Speaks, 2019)



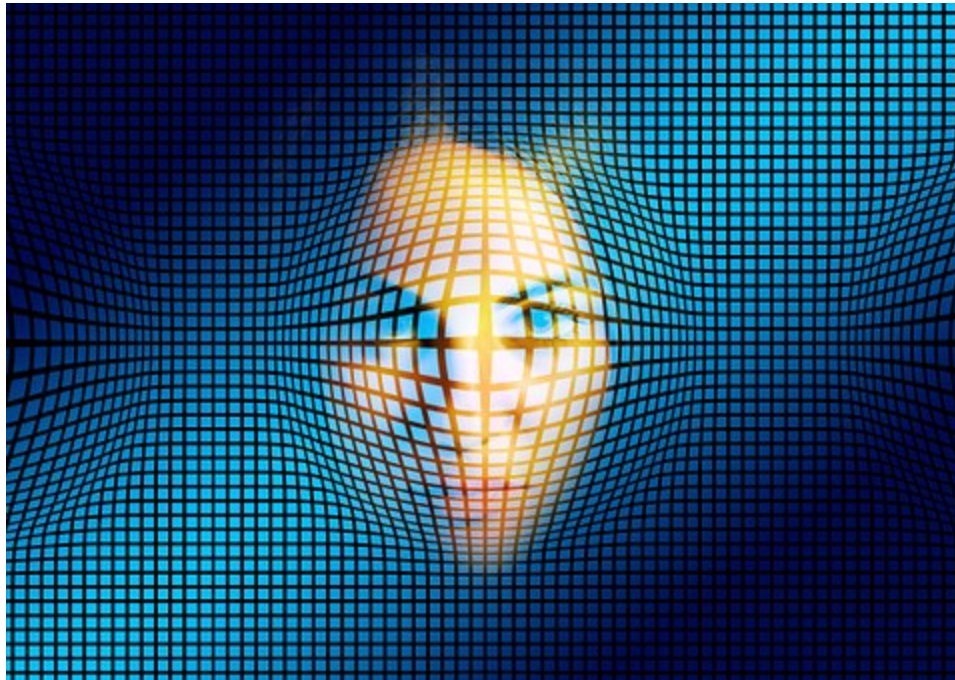
# Misperceptions

#1: Students with ASD are easy to identify

#2: They are experts in a subject area

#3: People with ASD are violent

(Autism Speaks, 2019; Autistic Self Advocacy Network, 2019; Im, 2016)



# Strengths in STEM

- Detail
- Patterns
- Sequences
- Structure
- Motivated
- Conscientious

(Gobbo, Shmulsky, & Bower, 2018)

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<https://www.flickr.com/photos/a440/8785654815/>



# Support in library

## Universal design:

- Policies
- Expected behavior
- Safe place
- Assistive technology
- Support services

(Gillespie-Lynch et al., 2017)





Front →

## Special Accommodations Requested

### Dear First Responder

I am providing this card to help ensure your contact with me is as smooth as possible. Specifically, I want you to be aware that I have

.....

I want you to know this because I may require some considerations during this process.

*Please see back for further*

Back →

## Special Accommodations Requested

### **I would like you to know:**

1. ....
2. ....
3. ....
4. ....

### Emergency Contact

.....  
Courtesy of the University of North Texas Police Department

# Support in classroom

## Universal design:

- Expected behavior
- Structured activities
- Multiple learning modes
- Provide backup
- Save face

(Gillespie-Lynch et al., 2017)



# Hypothetical interactions

1. A student in your instructional session is concerned because the handout you distributed has a mistake in it and doesn't match the actual activity. She keeps asking questions about the point and is taking up class time. What do you do?
2. One of your student employees who works at the library service desk tells you that a male student sits at the same table every day and stares at her when she's working. He never tries to approach her, but she is frightened by his behavior. What would your response be?
3. A student who you know has been diagnosed with ASD comes to visit you. She is very upset because she is failing a course. She starts rocking while in your cubicle. How would you respond?

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# Questions?

Presentation LibGuide:

<https://guides.library.unt.edu/neurodiversestemstudents>

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